NEWS IN BRIEF

CAFS offered

FOLLOWING the US lanoch of the ME29 low-end mainframe and the Distributed Arroy Processur, DAP, ICI, hos now odded CAFS. Its hardware database system to its US product line. A CAFS subsystem will have a starting price of about \$500,000 in the US and is offered there with 2950, 2950 and 2960 moinfrnmes running under DME.

A VME/B version of the host software is under development but is not ready yet, and CAFS is currently ovailable only with the old yet, and CAFS is currently ovailable only with the old yet ovailable only with the old yet of the second yet ovailable only with the old yet of yet of yet of yet on yet on yet of yet of yet of yet of yet on yet of yet old FDS 60 dlsc drives.

WP launch

APPALLINGLY slow progress is being made by the Department A. B. DICK is to Introduce o new word processor late this year, schools project off the ground. half-page screen and will be clusterable up to 258 stations. This is the view of people closely involved with the project, occording to John Coli, a mamber of the steering commit-

into the regions

REGIONAL offices are being act up by the National Racearch Development Corp to halp expond its activities in financing new technology projects. Monagers have been appointed for Scotland, based in Glasgow, and the Midlands, based in

BUPA £1m order

A El MILLION order for an IBM 4341 with peripherals and communications hardware has been placed by BUPA. The two Mbyte that hands on experience can be processor will support an SNA gained immediately.

The processor will support an SNA gained immediately.

Coll, a master at Arundel VDUs at the association's 17. School in Sussex, is already dealy involved with the control of the processor.

effort tu keep up memberahlp figures.

At present BCS heed office staff report

The document suggests that between 2 and 3% of fellows will be lost, 5% (about 500) non-payers to the general treasurer who thon circulates details to the branches so 100 new members and traosfera, and the new

MYSTERY surrounds the membership fig-ures of the British Computer Society which are due for inclusion in its annual report.

currently being prepared for the society's

innual meeting at Birminghs in In October. The report says membership has remoined buoyant of about 23,000. On the basis of fees,

income for 1978/79 in theory should have

een about £390,000, but it was reported at

There is some doubt whether the society is

lapsing non-payers and even nilowing them

to go uver n year before they are lapsed in an

£294,176. Memhership for 1979/80 is under-

stood to be about 23,950.

lors, has challenged tha whola

DES approach to the project

(CW, March 13) by urging that a lot of the £9 million ahould be

apent now on equipping evary school in the country with very

low-cost single board micros ao

that hands on experience can ba

deeply involved with micros in

being made by the Department of Education and Science in Secondary Education group getting the £9 million micros-in-which embraces micros. He said he was particularly concerned about the refusal by DES at tha momant to fund any part of the micro project that was likely to

Mystery over BCS membership figures

allowed to vote.

the BCS council has the power to lopse

In the formal notification of the society's

annual meeting — which is to be held at Birmingham Council House on Thursday.

October 9 at 2:30 pm — no members who are

According to a confidential document

sent to Computer Weekly, the society in-tends to ask for the fees to ba put up, ranging

from £28 to £32 for s fellow, and £19 to £24

more than four months in arrears will be

continue beyond next March. tee being set up to advise the According to Coll the most DES on how to run the scheme. urgantly neaded long term activity that had not started yet baceuse of the current DES Coll sald ha could age no good reason for the govarnment'a approach was the dissemination At the same time the Com-nuter Retellers Association, e group of 20 microcomputer veninformation to teachars all over the country about the

mature," but she could not comment when asked when the March 1981 limit on project activities would be removed. She suggested that changes in the DES handling of the project might be made after the first meeting of the advisory comnittee due letar this month.

A DES apokaawoman described Coll's criticism as "pre- the recommendations of the Computar Retallara Association.

resigning or moving to other grodes by about 350. There will be a 1,750 loss ngainst

The document says that s £2 cut in the

proposed increase at all grades would cost the society about £35,000. However, the document suggests this mesns the member-

A society spokesman was amphatic that

the membership was over 23,000 and tha

amount of memberahip faes received had exceeded tha budget. He added that if tha

isea were not approved there would have to

be cuts at all levela, aspecially in specialist groups and publications.

The draft annual report is to be considered at the society's council meeting on July 23.

ship is more in the order of 17,500.

2,250 new membera.

Coll dascribed the CRA's views as "nalve." Ha sald there waa e aerioua shortaga of sultable software at the momant and the intention was that practising teachers would be paid to take tima off to davalop software packagaa for use as part of

US national education plan—

WHILE the UK government still dithers over its pish to speed £9 million on mtoro education in schools, a US congression to campaigning for a similar pro-gramme which would cost \$4 million over the next year. Representative Thomas Downey (Democrat, New York) has intro-duced a BM to establish national centres for promoting the use of

Big drop in NCC's

condary classrooms.

The centres would be set up by rivate organisations under rivers organisations under redeate grants and would sim to develop curriculum materiels and show schools how computer aducation can be organisate by setting up plict projects. Downey is concerned that many children, particularly from inner cities,

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system

retrieval and database handing aystem originally developed a the National Physical Ly

oratory, is being used a perimantally at Shell U. apparently to see if it can are

as an electronic mell system of managers. Special terminals at printers have been installed a Shell UK'a London had

1977) Is now handled by system

house Triad, which has the

verted it to run on Digital
Equipment PDP-lis An III

an aupport about four spall aneous users, while an Il/lion

handla 30 to 35. Previous m

alona have been in use at 0

National Water Council mid

EEC in Luxembourg.
Shall will not say how has tarminala ara involved it in trials, which are nearing but

end, or who exactly the and is intended to benefit, but it

underatood thet managers w

manufacturers of High Guis,

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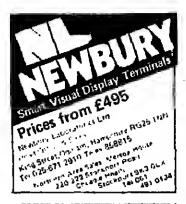
Number 715

electronic funds transfer are

first on the list of Racul-

Thursday, July 17, 1980

Price 20p



Briefing

IBM's future systems

IMMINENT IBM product an-nouncements include tha long-nyerdue ropiscament for the 3705 SNA/NCP front end prostreamer for archiving from the new 3375 and 3380 discs, and a double density version of the 3850 mass storage system, with integral 3880 controller and disc with in early 1982, a two gigabyte disc drive code-named. byte disc drive code-named McKinisy will follow, and a file byte disc drive code-named McKinisy will follow, and a file processor with some elements of the DL/I database system built In.

Thass ware among the pra-

dictions made at last week'a Online Future Systema Forum. Reports, page 11,

Home for Babbage

A PERMANENT home has been found for the Charles Babbage Institute for the History of In-formation Processing at Minnasoia Univaralty. Robert Stuewer, lecturer in the history of science of the university, will serve as acting director until a permanent head is found for the institute, which was founded in 1977 by Frwin Tomash, founder of Detardant

more power

CMC has announced a naw pro-cessor for its Reality business system providing 30% mora power at 20% less cost. Mamory sad disc capacities can now be expanded up to 512K-bytea and 500 megabytea, respectively. CMC now faces direct competition from the two UK diatribu-tors set up by Ultimate Corp. the arch rivel of CMC's US parant, ficrodata. See pas 5.

Racul-Datacom's experience Transcom which was formed to in encryption, a key requirement for EFTS, led it to respond to develop, monufecture and mar-ket electronic funds transfer systems at Sallsbury, Wilishire. At present it comes under the umbrells of Racol-Datacom,

concepts and pllut products roll printer which produces a meeting their requirements of receipt for the customer and a

activated by a magnetic stripe car and including an attached keypad to enable the customers to key in their secret personal number has been demninstrated. The terminal also includes a dual



IF Europe's microelectronics industry is to overcome the lead held by the US and Japan by 1985, the development of the complex production equipment needed must be supported. This is e major plank in a strategy being planned by the EEC Commission.

The Commission is to present its support plen for microelectronics shortly and it divergea sharply from the national plans in various countries, notably Franca and West Germany, which emphasise the mastery of current technology frequently in collaboration with US com-

The Commission's viaw is that Europe will never laap the tech-nology gap unless tha key process plant la available from local manufecturers. US procees equipment manufacturers natu-rolly favour US companies with the first models of their most advanced equipment, frequently

in prototype form.
US microalectronic companies thua gat nine months' or a year's vital experience with tha next generation of plant before European manufacturers.

The aim of the progremme for Europe to ba abla to produca

original aub-micron microelactronic circuits by 1985.

A comparable US programme is being funded et \$200 million, and this is the sort of money that the Commission will be seaking for its four-year programme. The Commission is hoping for

e decision to go ahead with the programme from the Council of Ministers by the end of the year, but the precedents era not good. The four-year computer aup-port plan took ebout three years to be accepted and the proposed budgal was slashed to shout a querter of thet originally sought, 25; million units of account (£15.18 million)."

The microelectronica programma will siso amphasisa computer-aided dasign and tes-ting equipment for microelectronic circuitry. Ona hurdla to overcome is

ona nursia to overcome is that the West Germens want the programma confining to national industries whereas other mamber states want an EEC-wide programme using funds that do not

Falling orders blamed for NCR jobs axe FALLING orders have forced cause of the coat of money and

affected much lass.

tinua to do well unless the

recession is vary much daeper

NCR to axe 40 jobs in ita com- in anticipation of a receasion, mercial and industrial mar- the company saya. Its other divisions, retail and financia keting division, including thosa of 17 graduates recreuited last eulumn, Other jobs affected are thosa of systems and aupport

The company is endeavouring to find jobs in other divisions for the 40 staff and, according to a spokesman, Iwo thirds of tha graduatea have been radeployed. Alternative posts are more plantiful in the London area than in the North of Enthan anyone predicts.
A Burrougha spokasman aald the company had no plans to lay off staff. glend and Scotland, Tha apokesman dismissed as "rub-bish" reports that the number of

redundancies was much larger.
C and I merkets the whole range of NCR's producte, and has been broadly, hit by firms putting off decisions to buy be-

First product from Ragel's latest subsidiary, Racat-Transcom, la a PoS terminel that can be used for electronic funds transfer. The customer [pictured left] is using a small hand hald device to key in her personal code which must match the number encoded on her banker's cerd.

Buyer found

MICRO systems house Abacus Computers has been bought by an unnamed large UK per-pherals distributor and o new The feeling that the impending recession is due to hit the company is to be formed which will be a subaldiary. Derak Rows, who remains as managing director of Abacus, aid final datails would be setcomputer industry generally manufacturera. David Croft of Honaywell said that his firm "does not envisage laying off anyone," and axpecta to contled next week.

He said that the company where the receiver was called in by its bank (CW June 25) had been takan over as a going concern and would carry on

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"The savings and opportunities provided by the introduction of our new system ere anormous." That's the view of Fred Fiolayson, Managar, of Management Services with Express Dairy Foods. The new distributed processing system is one of the most ambitions in the country—with a total of 27 dinicomputers serving 13 factories and 27 distributed epods (it will help Express gat more dairy goods—like it Beleo Vale products—to the right place at the right time.

Qual togic is implementing the project under a turnkey contract that means software development, supply of computers and project menagement. It aven, in this case, meant the development of special communications hardware based on microdicessors for a more economic data network and level talkings of the strong programmers. That's one of the best profess and project myblyes one computing expertise Whether your larkings.

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Olivetti's 8 mips system available in UK

OLIVETTI-Computers, the subsidiary set up by Olivetti to sell sells: threa smallef machines
IBM compatible processors is to
built by Hitachi es the OH 5520,
open an UK offica in September
open an UK offica in September
It has also extended its product of the IBM 303X line. Olivetti line with the Hitecht M200H.

Ine with the Hitechi M200H, probably the world's most powerful commercial computer.
Designated OH 5560 by Olivatti, the M200H is rated at over eight million instructions, per second in its single processor form and outperforms a 3633 MP by about 10% Acobrding to Olivatti it has just supplied the first OH 5560 in Europe to the Piedmont Jesianal 2008 migent in Turin.

of the 18M 303X line Qlivettialso sells three machines built in
the US by IPL Systams of
Massachusetts. They are the OC
5310, 5320 and 5330 — the latter
offering ebout 10% more nower
than an IBM 3031.
Two other firms holding marketing agreements with Hitschl
are National Advanced Systems
and BASE (CW, July, 3). But
neither has an agreement, yet

neither has an agreement, vot with Hitachi covering the M20016

INSIDE THIS WEEK'S CW

Letters PAYE runtipula miliona Poventiens
Figure
Threat to CMC
Shares datality

Using modern meths
fection and Events
resping the disabled
Ricato News
Districts of IRM learnesses
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Acquiring an IBM computer?

Ghoosing the right method of acquiring computer power

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INCOME from the asle of products and services, its aim ducts and sarvices by the National Computing Centre rose 30% to £26 inlition last year, while big surplus at the and of the year the centre's government work under contract for the Computers, Systems and Electronics Requirements Board fell to 26% Overell, it is charged with providing a framework of 30% last year (CW, July 12). The knowledge, standards and actual figure for the latter activity wes £1.14 million, an puting practica, with representations.

operating surplus

activity wes 21.14 million, an increase of ebout 12% over thing the interests of its mambers.

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Public access to information

THE Langua party is to be asked to council for Civil Liberties. Lower for a Data Protection. He will proposes that the Act Act Council for a Data Protection and the will proposes that the Act Council for a Data Protection and the Protection and Protection and The Protection and Pro

One aspect of DES policy with school subjects like history and which Coll is in total egreament geography, matha and the lift plan to spend most of the £9 sciences.

might go all the way through school without aver, seeing a

computer.

Despite interest in both houses of Congress there is tittle chence that Downey's bill will be passed this year, owing to pressure of other legislative business. Educational funding in the US is avan more decentralized than

18M back-up: A BACK-UP service offered

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COMPUTERVIEW

factory on the strength of one contract, however big. can be dismissed out of hand. Univac or Burrnughs or IBM make such decisions no much broader economic criteria than that, and will site new plants in the UK only locally whoever gets the contract, so there are some if the balance of ecunomic advantage - availability of cheap skilled labour ugainst industrial relations problents, compled with a financial incentive puckage favours the UK rather than Ireland or Italy, France or

It would be as absurd for ICL to threaten to abut down its System Ten line in Hertfordshire and cuncentrote production in New York State If it does not get the contract as for any company to promise to site a new fuctory in the UK if it were awarded the contract.

Since IBM is phosing out large processor production at Havuni, the only British-built mainframes which could meet the requirements of the project are ICL's Zeuland being one. ICL might win that one even without 2900s and Honeywell's DPS 8. The latter are built at Newhouse in Seotland.

Zeuland being one. ICL might win that one even without tender to be delayed beyond the end of the part to be delayed beyond the end of the p

SHOULD the government go out to open tender for the inhand Revenue's planned PAYE computer system, or should it go by single tender to ICL? There is intense lubbying by all the major US companies to persuade the government to put it out to open tender, with promises of increased investment in the UK to follow if the contract trace their way (CIV). The follow if the contract trace their way (CIV). Talk of Univae opening its first computer equipment plent in the UK, of Burroughs expunding terminal manufacture in Crnydon or of IBM opening a new UK factory on the strength of one contract however him

There are sufficient terminal manufacturers in the UK have a disaster — and a system as big as this is that one can safely assume the terminals will be built grounds for favouring a manufacturer who will build the mainframes locally.

If the government has any belief in the value of an ndependent national computer industry the need must be to show why the order ahould not go to ICL. The company's business is expanding fairly rapidly, but it is mainly at the amaller and of the private sector market. As Geoff Cross, the company's former managing director, used to say, it is infinitely harder to sell a system to Italian Rallways if British Rail uses IBM.

Several foreign governments are looking for systems similor to that wanted by the Inland Revenue, New Zeuland being one. ICL might win that one even without such a system is always the hardest, and if one is going contract should go to anyone other than ICL.

run into a lot of problems whoever supplies the kispreferable to be able to hove it on your own doons

Since the application programming salitobers, the Inland Revenua itself, the only serious double ICL's ability is whether it can meet the network requirements. The Dol experiment to simulate: terminals on a 2972 under IDMS-X 200 and TMS-4 Intended to astablish this (CW, July 3). Even it remoin problems with ICL's networking softwire company will never get it right unless it can be see. on systema such as that for the Inland Revenue. As Honeywell be shown to be able to do it any better

The operational requirements for the system, already established, so there is no reason for the case

LETTERS to the EDITOR

of computing

man (CW, Junc 19), he makes a Weinberg.

Other rethat my column only cites work direct eccess to a varied set of done at IBM and does not refer tn the work of the many other ominent rasearchers in the humanised system field (Mytho-dology, April 17).

I am sure that Mr Newman apprecietes thet I have to bolance depth with breadth of coverege. Sometimee I cite many instences, aometimes I choose to concentrate on a single interesting subject in dapth. Forgiva me, I do indeed know the work of many of those mentioned end would hope to

IN the letter from Julian New- in Humanized Input, by Glib and

Other readers, wishing more those who require depth, e two-day humanised input tutorial

lighted to learn that it is now cause if the big systems don't get easier to use, the eiready highly

sources, including Eason and Shackel, mey be interested in an infotech State of Art conference in Zurich on September 22-24 for the "Non-expert User". For follows on September 25-26. IBM cualomers will be de-

ton-level company policy to de-sign "usabilily" into naw pro-ducts. We are all affected bedeal with it and more, in time.

Some readers might like to consult the 14-page bibliography

user-friendly microcomputer aoftware will win by default.

TOM GILB

The best recruits

THE article, Which people maka taking on raw greduates whan the bast recruits? (Page Six, recruiting. June 12), referred to commenta of mina made in en interviaw: with The Observer, I would just lika to clarify a few pointa:

l was advocating that com-panies consider individuals with few standamic quellficetions but with specific business experience in a givan application of industry area as well as

Bradford Council I REFER to Compliterview (GW,

July 3), and wish to make it clear that the Bradford Council did

potential to the company end should not be slotted immediately into a given group, R, M. BAIN Unliever Computer Services, Wempley, Middx

puters in support of strikes will the centre of the argument. surely do the computer industry no good at all,

The shutdown of computers

once they have obtained a foothold in the working environment is athically wrong. Consider the situation of the locel government employers over their recant attampls to control pay increasee. The costs involved over a confrontation would have bean catastrophic and the employers had to con-sider the well-being of the community at large.

Ona wonders if there isn't at

some time in the future, going to be a fight to the death involving tha computer es e atrike argu-mant which will aet the industry back meny, many years. Already firms must be wondering if the total depandence upon computarisation is a good or a bad

The computer elemant in the These peopla are oftan a valu- local government affeir involved able basa on which to build, as a relatively smell number of well as graduates who tend to employees who once convinced well as graduates who tend to employees who, once convinced apring mora reedly to mind of a courag of ection, had the when training in the computer power to obtain "justice" with consummate asse. This "justice" npt only eocrued to the computer operetors but to every Tom, Dick and Herry of the Naigo Union.

Parhapa paralleis cen ba drawn with the fire service, the medical profession and the armed services, although direct

1984 and all that . . .

their merits and each individual

should be considered on his

THIS weak's example of the atranga things pe

that the Bradford Council did not pay a levy in respect of addictions and the second s

DIVILIAN MANAGENERY TWAINING

RANLE GOUNT Ref. No. (CP 1974)

A minimum schmidt squarase required of seeks in this institute of Mod genomes to surgest me morphise and project management. The evidence will be required to surgest an intensitive ampliant and provide a sunable range of particers and convene to ellipse curring resetting worthing.

Denny is required by gith February 1981:

Applications for copies of the Constitute Sequirements smooth be sent to the sent of the Seat Constitute of the Seat C

The human side Should the computer be a strike weapon?

formula for atandardisation of atively the energence of a proceduras and equipment to tree is of employment with ellow flexibility and ease of takeover capacity in the short term. There must be answers to . elhics, call it what you all the power of the computer aa It now operates and the industrial chiefs will not be slow to reelise that the power must be checked.

The computer industry may Stafford.

Perhaps someone will study in the effects upon firms of computer ahutdown ond arrive et a formula for atandardisation of preclude shutdown or her fessional acceptance of the exclude the computer los discussions of pay.

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on single tenders soon A OECISION on whether or not to adopt an open tander approach to the inland Revenue's PAYE con-tract is expected this week from the Prime Minister. And in the past week leading up to the deci-sion Burroughs, more than ony other of ICL's competitors, did all neould to make the case for opan

THE Labour Party has come out solidly in favour of ICL getting the huge inland Revenua PAYE State Gorald Kaufman, The let-

Both motions were tabled in "thousands of highly skillad the Commons on July 11 technicians and workers" in ICL plants in Menchester and the North west would be put at risk if ICL did not get the order ICL's big 2900 mainframes ere built at Movid be a "savage blow" to ICL would be a risk if the contract want elseliwere He said that to set risk if the contract want elseliwere He said that for a massive increage in volume production and experience in providing the latest technology which would damage its prestige abroad considerably.

Other senior Labour MPs motion with the PAYE contract want elseliwere He said that for a massive increage in volume production and experience in providing the latest technology which would damage its prestige abroad considerably.

Other senior Labour Mps motion was failed in its High Court action for recognition by the Post Office which has been trying to reduce the number of unions it deals with Last year 1,000 British Telecom salesmen joined ASTMB as a result of a merger. Both motions were tabled in

Prestel info providers to merge

meneging director. Smith left the Prestel merketing staff last year to set up intext, while Applied Viewdota Systems was set up by publisher New Opportunity Prese which will be a major shereholder of the new ompeny. At the same time Smith, with

result, projects could be intolerably delayed, key staff would leave and business ba damaged. If single tendering was in egents for equipment mekars.

Both compenies will occupy
Intext's existing offices of 149
Oxford Street, W1. The elm le to practice, public bodies should be compensated for any additional coata which resulted, so that they were removed from the

There was subatantial feeling at tha meating that while ICL had been saved by national action, the reat of tha UK'a DP Induatry was in desperote need of halp. The case of a US min maker, in dire financial atraits five years ago, was cited. The firm went to the US money market for backing, and five of the 10 projects it quoted to back its case ware with UK public sector bodies. The firm got its money and la today thriving.

policy would result in the or-

ganisation being asked to re-

tender, there would be Civil

Service requests to examine the

tender documents, requests for

extended discussiona and calls

for independent aurveys. As a

TWO Prests Information pro-viders ero marging to form AVS Intex), with Molcolm Smith as

fellow intext founder Barry Standing, is starting enother company selted Systems Intext to explore the market for view-dota hardware by becoming

cover the whole range of viewdate ectivities se a consultensy and as a hardware, soft-ware end information supplier.

Composing system

THE Printing and Publishing ordered a £100,000 Ferranti CS7 computer-based composing aystem. It will he installed at Watford College, one of five Iralning centres used by the

Univac boost for scientific DP

UNIVAC has further expanded eight million 36-bit words. its scientific offerings with the No UK prices have been given 1100/80 big mainframe hy adding a scientific accelerator mudule, which is a high speed gate array device claimed to level model, which with the hoprove scientific Fortran pro- accelerator is called an 1100 cessing performance by 25%. Eurlier this year it announced

a back end array processing subsystem for the 1100/80. Maximum maio memory on the huffer and one ioput-output 1100/80 has been doubled to unit.

accelerator to an existing 1160: 80 costs \$125,000, and an entry 80S, costs \$1.45 million. For this the customer gets the processor with the accelerator, 512K: words of main memory, 48

Man pleads guilty to charge of commercial espionage

Today's*

Geyter ploaded guilty in the federal district court at Alexan copies of the source code were dra, Virginia, to attempting to held only by Adahas itself and by obtain the acuree code of the Adabas dntnbase monagement aystem from Software AG with a ested in the system, she said it new to handing it over the the Soviel Union.

The court heard him admit naving \$500,000 to an FBI agent poaing as an employee of the Swiss firm's US arm. The offence la classed as commercial and its detction involved both the FBI and CIA,

BELGIAN Marc Andre de A Software AG spokesman at a hank in eacraw. Asked why the Soviet Union might be inter waa used by "some government agenciea". The Pentagon ia understood to be one user

> De Gevter is on \$100,000 bal and is due to be sentenced on August 1. He could face up to a year in prison and fines of

Yesterday's branch office



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and profit. lo wait?



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Portable Date Terminal Trademark of Toxas Instruments

Forum, where Akare etrongly relterated Surroughe' enthusiasm On Monday, Burroughe' for open tendoring Labour backing Britain for PAYE contract

the hoge inland Revenua PAYE. State Gerald Kaufman. The letcontract through the governmant's single tendar policy. Ardwick, the locetion of ICL's Shadow. Chancellor Denis West Gorton factory. Hajey and five other senior ICL wrote to 30 MPs last weak latour MPs heve backed a listing reasons why they should the "strategic and economio and the motion tabled by the 30 importence" of ICL being the prima contractor while an Lab. Enday warmed that the apport

their names to another motion supporting the case for ICL

MPs told why tax

ment bought radar equipment from a Dutch firm rather than

from Plessey, two Middle Eas-

tem countries and one in South

America subsequently let it be

known that they too would not be buying British.

This point was made at e meeting of the Parliamentary

Computer Forum at West-

minster on Monday when pro-

curement policy was discusaed.

The forum is a lobby group which aims to Inform MPs about

computera and information

technology in general. Tha sub-

ject la particularly important at

the moment in viaw of the

mminent order for equipment

for the big Inland Revenue

PAYE project.

The quote about the radar order was perhaps the most

striking defance for ICL's view

that while government aupport

for specific davalopment pro-

jects would be welcomed,

Soveral US mainframe

tendering.
Lasi Thuraday, July 10, it held e press conference to discuss the inland flovenue requirements and to answer questions, most of

which were ebout Burrough's ultability for meeting them. It

took the opportunity to talk about the big terminal networks it had set up for the UK elsering banks arr. to make the point that if it got the PAYE contract, the majority of the value would be added in the tits.

and their view, predictably, was policy.

Decision from Maggie

manufacturers were represented

governmant ordars were vital.

man needs ICL kit

direct cash ald, or nny kind of

help for national manufacturera

was fine, just so long as they did

not get anything on a single-

The employment iasue also got an airing, with the big US

cases for being as British as

firms present making strong

This was countered with the

argument that although it was

possible for multinationals to be

so devolved that they really did

respond to local naeds with

locally dealgned producta,

specific to a particular European

market. In the computer in-

dustry this scarcely happaned at all. It was claimed that in the

field of European atandarda, US

manufacturers were particularly

The user'a view of the pro-

blems of alngle tendaring was

atrongly argued, with a catalo-

gue of obstructions that had to

be faced by organizations ex-

pected to adhere to auch a

government merketing menager, Mike Rudd orgued for open ten-dering against former Computer Weekly aditor Melcolm Pettu On Radio 4's Todey programme, and Rudd would also have oppeared on BBC1's Nationwide pro-

gramms that evening if ICL had not decided against taking pert at

the last minute.
ICL's directors of corporate

communications Alan Senjemin said he thought it senable to de-cline Nationwide's offer because the whole metter was "sub

The same evening, Surroughe' campaign troll took menoging director Bob Akere, clong with an entourage of his lieutenents, to the Porliamentary Computer

obatructive.

prima contractor while 30 Lab., Friday warned that the apport damaged and the future employment prospects of "thousands of highly skilled technicians and workers" in ICL plants in Menchester and the

Branch office of the future, but uvailable now -

You can then make instant decisions based on reliable. In your customers' offices for instance, the 745

quolations:

Can you efford

Downtime

by Chad

The answer's always the same

by the ingenuity of toymakers. Why can't we harness it to solve all our industrial problems? Alt, but then the toymakers nowadays are all in Japan and Hong Rong, and It's not their industriol problems we want solved.

What prompts my awe now is a tuy wntch'i saw in n shop the other day. Remember the toy watches of our youth? You would twiddle the knob and the hands would turn round (together). Now how do you suppose you would make a working toy digital wotch? Impossible? Not at all, There

I was "New battery-powered digital watch — lights up like the real thing." And indeed it did. I pressed the button and it

It was in fact 2:34 at the time, so my razor-sharp mind realised there was a catch. The figures are moulded into a plastic femplate so li is permanently 11 27.

"Stands the toy watch at half past eleven and is there lunay still for lunch?" It could give our offspring aomc

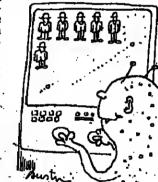
curious ideas about linte. . Tite next step is obviously a tny computer. It would have a printer with pro-printed stationery in a roll luside, and for whatever problem you tapped the keys, you would get n

NEVER cease to be amazed piece of paper with the same

But what would this answer be? It shouldn't he too difficult to think of one, considering how many experts these clays have a needle-stuck-lo-groove mechonism for giving advice.

Every week there is a radio progromme for people to phone in abnut the problems they are having with their children, and to every question the unswer is "Don't worry, they'll get over it." Harley Street is populated by psychlatrists who listen more or less intently for 50 minutes and then say, "Come to temis with

With all this skill in prefabricated answers, we ought to incorporate them in real comnuters as well as toy nnes.



Chipping away

project us from the ravages of he microchip. This is what is known in our trede as e "Dog bites man" story. A journalisi could grow old waiting for his real "Man bites dog" story to come along, so I will generate nilne ou my own

The Labour Party announced today it hed decided thot encouraging email

LAST week's biggest yewn deetroy. There was no need for wos the news that the Lebour new technology agreements thinks there should be whereby union approval would more Stote intervention to liave to be obteined before new

equipment wes brought in, as menagement invariably knew more about how to run the business than the workers did: Employers ehould be encoureged to meke people redun-dent einca this would divert manpower to more productive sectors of the economy. ectors of the economy.
At the same time Sir Kelth

Joseph has decided that the best way to boost our proeconomy would ofeote. far sperity is to netionalise all UK more jobs than the chip would firms making microchipe.

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GILB'S MYTHODOLOGY

MUMFORD and Weir, of Manchester Business School, have developed a high level sys-tem design nielliod, known as the Ethics method (Effective Technical and Human Implementation of Computer

I believe that most systems would derive substantial benefit frnm making use of this approoch, simply because we presently give too little conscious thought to human and employee user objectives when designing computer sys-

Surely management and employee representatives are growing restless and aware that presently designed com-puterised systems have devoted too little thought to the ultimate users? They are just waiting for specific answers as to how to organise the system development cffort in a more constructive employee-centred direction. The Ethics method gives a simple but formal checklist approach that allows all levels of non-computer-expert manage-

ment and entployee representative to participate lo the selection of the major strategy of In preparation for e speech l will give at the infotech Non-Expert User Conference (Zurich, September 22-24) I epproached the same problem, before i reed the Ethics book, using my own style of tools, the Design by Objectives method, samples of which i have shown

l should liké to share with the

FOCUS

the DP service falls. Whether It

is the US defence system or the

local high street benks which

cennot produce the required

gooda - In one case world

security, and the other the

monthly statement of eccount.

computers ere mora noticeeble when they ere not performing as per requirements.
Letting the computer take the
bleme hes been astablished

procedure since the early generation days of the punch

oard and file sort hardware.

DEPENDENCE on computars is never more obvious than when ears to be declining, except per-

The Ethics method of system design

reader a part of that paper.

There is an important difference framework of Ethics. in fact I between DBO and Ethics here.

In DBO we try to stale all human and technical goals in measurable and quantifled for-

In Ethics, all the examples of goals were stated without any measurable level of ambition, or any meens of objective measurement. To be feir, I greatly admire Ethics' use of employee attitude measurement to analyse the old system shortcomings. But thials not the same as en explicit requirement to measure by survey after the new system is installed, end to meet certain employee satisfaction levels in order to declere the system a formal success.

I believe that it should be possible, without eny loes of employee participetive ability, to state all of your naw system goals and constreints in mee-

eers to be declining, except per-heps for government and State

However, even the beet

maneged systems heve their

off-day, or days. While e short

breek in normal service is toler-

able — except possibly where US defence or eirling booking

programs are involved - pro-longed delays call for much

Following an initiel period of

irritetion end genarei helpleas-

ness, usere have to set about

creating some meke-do-and-

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computing operations.

Managing without a system

would argue that measurable goals represent a much better medium of communication between the parties involved. The employees know in a more concrete way what the level of mprovement will be, and the technical system developers know the minimum levels to which they must design the sys-

Instead of having an Ethics objective auch ae "creation of a workforce which is efficient . . (page 155, Ethics book), i hink we ought to stete that we plan that the employees shall everege 100 customers per day, with less than one error per thousand customers silpping sign By Objectives deviate through the computer, and one dey on-the-job treining of pre-sent employees as ell that is necesaary to ochleve such efficiency.

manage menuel procedures.

only brings out the best in nil

long forgotten akilis in menipu-

office teems become noticeably

close. The common enemy be-

Soliderity links ere formed

i hope that Mumford and Weir



Tom Gills is an ledent and author on content

would agree, and that the problem is the practical of getting people to state what they really want we be responsible for having her

It may be easier to get ment in the short termin goals, but I don't being this solves the long ten blem of living with the me

If we are truly going un towards more bunks are for human beings, then! we must use a refiel specification language in cussing them. Ethics god very useful structure to with, end I hope some me will egree with me that the Improva upon that sindu

"Computer Systems in Worlds" the Ethics Method, by Edit ford and Mary Well Anna Business Press, London, 100 [1]

users opt for ICL ME29 kit

for the ME29.

Six IBM

Gsleries Anapach chose the ME29/45 because it also wents 100 of the company's 9500 series point of sale tarminals and the IDMS database.

AVON and Somerset police hes ordered an Intelex-11 message

UK office opened

tuter Volker Cralg has set up e whoily owned UK subsidiary, Volker Craig (UK) Ltd, at Tolplts Lene; Wetford, Herts. Tel: Wstford (92) 40043.

FOLLOWING successful

quarter profits 39% to. \$370,000. on ssies of \$4.5 million, multiplexer manufacturar Timeplex of New Jersey has teken over Cermetek which has plents in Callfornia and Mexico meking hybrid microolrcuits for deta

term, are seldom praciel.

with the keyboard girle filling their enforced idle tima by relaying measages between DP control and office personnel.

The system manager achieves rapport with the office meneger es both plen, over many coffeea and blacuits, methods of keeping the immediate finding.

TEN YEARS AGO.

From Computer Weekly of July 16

At such times, harmony between DP and usor teams is very For management, side much in evidence. Adversity not

puter failures are rele-cyants. They soon discrete concerned but also brings out comprehensive computer up procedures are legen lating edd-listers and labal tinn of the industry.

tinn of the industry.

It is no more possible by cese company workless elternative machines their recreate manual clerishing—except where their informations, a complete their instance, a complete their instance, a complete their instance, a complete their instance. Probebly many users can eurvive with the dey-beforeyesterday stock or cash position listings. Beyond this point, con-tingency planning tekes over. of the computer system to lowing fire or looking the solutions, at least in the Such ection is, of coursa, triggered somewhet earlier where real time operations ere the order of the dey. Co-operation and liaison between the DP and

identical operations particular configurations or even in the same time, office new have probably traveled comes the computer manufac-turer and his site engineers. down the DP path to ke

their enforced idle time by relaying measages between DP control and office personnel. and blacuits, methods of keeping the company show on the road

until the computer system is from manufasturer that manufasturer the manufasturer that manufasturer make a rare appearance and inquest as acon as its make a rare appearance and inquest as acon as its make all concerned that every up and running thing possible is being done and. Recovery may thing possible is being done and. Recovery may make the arrival of a specialist engin for the DP system the property of th

A PROPOSAL for an integrated was leutched with last data communications system; in based on inegum of the comparating both sipre and for alon and TL integrate ward sathricines are well as high . The Soviet Ministry of Vised by Standard Telecom. Status, the only sensitive wards by Standard Telecom. Status, the only sensitive munications. Labs. bits British the world to Propositions in Sensitive Ward of the Communications of the Sensitive Ward of the Communication of the Communication of the Sensitive Ward of the Communication of the Communicatio

WITH half the customers for the 200 ICL ME29s on order being new to ICL, including six IBM users, the machine seems to be living up to ICL's expectations.

The natural growth path for IBM 370/125 users is the 4300 series, so to get depertment siore chain Galeries Anspech in Beiglum and Hertsmere Borough Council to opt for ME28s is considered something

The six orders, worth £600,000, are led by Victoria University in

New Zesisnd, which has can-celled its iBM System 38 order

of a coup.

System 3s and System 32s ere
to be repisced with ME29s by
sugar cane harveater menufacturer Tofts in Australia es weil ss Sisndard Tube and Lloyds Electrooic in Canade. Both Csnsdian customers are iongtime IBM users.

rolice system

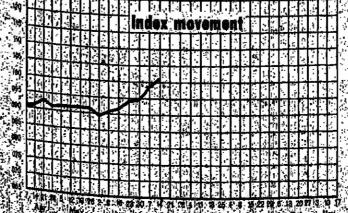
switching aystam worth £100,000 from Arbet, Due for sutumn delivery, the system will handle over 60 linas end will be based on the new Digital Equip-ment PDP-11/44.

CANADIAN VDU manufec-

Takeover

Tha Reality software was de veloped in the US by Richard Pick, now of Richard Pick end Aesocietes, and was imple-

1960	Exchange .	Pence		New York Stock	1
High Low.		Price Criga	High Llow	Sigel	Price C'nge
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Random questions on Ernie

ell gone to persons living in the London area.
Finenciel Secretary Rigel Lawson seld the Treseury was satisfied with the februars of the draw. Ho added that the current Emia bagan work in 1973 and was due to be replaced in 1888.

A spokesmen for the Department of Netional

THE Integrity of Ernie, the mechine used to select randomty Premium Sond winners, was questioned in the House of Commons test month.

Neville Trotter, MP (Con, Tynemouth) saked the Chencellor of the Exchaquer if Ernie was reliable effer the first three prizes of s draw made in Mey had these weekly jeckpots. It's pure coincidence.

Sevings, the Trecoury sub-department responsible for Emis, commented: "One week in Mey the three prizes of £100,000 and £25,000 all went to personal in the London area.

"That's the first time it's happened since we've had these weekly jeckpots. It's pure coincidence.

"That's the first time it's happened since we've had these weekly jackpots. It's pure coincidence. Actually Emic lan't a computer; it's a Pleasey rendermental property in the computer of the property in the dom number selector.
"We use a smell Honeywell system to feed it such

information, such as when to start end how many selections to make. We have maintenance contracts whh Plassey and Honoywoll which lest until 1886."

already been sold in the US for

use on Ultimate systams by the Sheffleid firm'a US associato,

EDP of America Inc.
The managing director of EDP
Systems is John Murrey who

wea formerly general maneger of CMC. EDP's first customer for

Ultimate is Mitre Sports of Hud-

CMC Reality user base faces threat

ALREADY threatened by two systems suppliers, CMC's base after it fell out with Microdeta of Reality users in the UK is now and stopped seiling Microdeta baing attacked by a third com-The Pick softwere is elao ueed on the Prime Information aystem sold in the UK by PRC intarnational (CW, March 27) and peny, EDP Systems, the newly-formed aubsidiery of Sheffield bureeu, Electronic Data Procea-

EDP is the second UK disis now being tailored to run on a Zilog Z8000 based machine tributor appointed by US firm
Uitimate Corp, which implemented the Reality aoftwere on
the Honeywell Level 6 minicomputer end already provides
strong competition in the US for being introduced et the end of tha yeer by Applied Digitel Deta CMC's parent, Microdeta (CW,

Until now the Sheffield bureau itself hes been e CMC Raelity user, running its time sharing service on three CMC mechines. Thase ere now being repieced by Uitimete systema. The bureau's main epplications software offering developed on the Reelitias is called interfece and is now being sold, with the rest of the Uitlmete herdwere. software package, by EDP Sya-

EDP will be seiling. Ultimate systems ell over the UK even though its contract with

Ultimate only specifies the isle of Men es its territory.
However, en EDP spokesman expleined that the lale of Men was almply e technicality to get eround the existing egreement batween Ultimete end Universel Computers of London which apecifies the UK as Universel's

CW SHARES TABLE

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Private viewdata system goes on trial

A PRIVATE viewdata system which allows interrogation to called Metrotel developed by check on the frame routing Grund Metropolitan subsidiary structure, and an editing module Metrotech Management Technology of Uxbridge, Middx, is to go on two months' trial at the Wembley Crest Hotel in time to drawings with a magnetic pen. The Metrotel system is deprovide information to guests attending the 1980 Microcomputer Show nt Wembley Cnnference Centre from Tuesday.

and locel traders. The system uses a Vector Graphics/MZ microcomputer with one editing terminal and one output port for feeding a rntating display of 30 frames through the hotel's cebic relevision network.

July 22. The hotel alms to sell

frames to conference organisers

Floppy disc besed aystems give a capacity of 250 to 400 fremes, while up to 8,000 frames cnn be held on the mini-Winchester based version which uses a Cromemco Z2-H micro. Up to eight interactive ports cen be configured at a cost of £500

on top of the basic £6,500 price. The 28 kilobyte program is written in Basic and Z80 machine code in five modules including a detebase menager.

signed for two main applica tions: local editing and bulk updating for public service in formation providers; and driving public displays from an in-house system. It has attracted the Interest of potential dealers in Hol-

Prestel picked

teletext system (CW, June 12), Austria has become the fifth country to buy the Prestel viewdata system from British Telecom. Triais are to begin in September using a GEC 4065 with 32 eccess ports and two 70 megabyte disc drives, a smaller system than the 4082 used in the UK and elsewhere. The software is being supplied via ITT Auet-

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CONTROL DATASET Control Data

Easy-to-use inquiry

Pitfalls of contract programming...

THE opinion commonly held in the influstry about contract progranuners is that they are overpaid, hut very valuable. At a time when the right callbre nf qualified staff is needed with increasing urgency, employers have in rely more and more upon the services offcred by freelance progrommers for speedy solutions to their staff problems, and have to pay

Becoming a contract programmer is a dream held by many programmers working nway in small under-paid installations. The numey, the variety of work and the wonderful feeling of being self-employed is

Murtin Levy, at 22, was enjuying such n life nnd although his story may be amusing it raises same interesting points about the risks a contract pro-

When Mnrtin received a telephono cnil from his agency asking him to work in Rome on a PDP-11 contract for the European Space Agency, naturnliy he agreed and within three weeks was off, so he thanglit, for

A luxury flat in the hille just uutside Rome, £300 a week ond a ci-setter's lifestyle sounds like ii programiner's or indeed anybody'a dream. Unfortunately for Martin it was short-lived and the ski-slopes a milic and a half away from his home were allimntoly his downfali..

An accident while ski-ing resulted in a badly broken leg. and with little trust in Italian doctors Martin chose to fly back to the UK for treatment. Luckly fur him; after five weeks he was fit enough to hobble back on crutches to his job in Italy where his employers had agreed to hold

Breaking a leg is unfortunate. or even funny, depending on how you look at it; breeking two legs nr even the same leg i wice is downright ridiculous.

be persuaded to see the funny contract work ar side when he rung to tall tham the advantages.

his leg egain, inside the plester, in a car eccident.

The spiral fracture that occurred during the second accident meant it was impossible for Mertin to stay in his apartment and hie leck of faith in the local doctors necessitated o further return to the UK which meant that he lost the contract.

Coneequently, Martin is in the unenviable position of having a hrnken leg ond heing out of wurk. Therefore enything he applies for has to he in reasonnble travelling distance of his

Martin's minfortunes are ao unlucky they con raise a smile. But the whola incident also raises some pertinent queetione about the security of a contrac-

For example, although there is a reciprocal health agreement which in theory enables a British citizen to obtain medicsi treatment in en EEC country frae of charge, in practice this is difficuit to do and obviously someone with a broken icg le in no position to run around obtaining all the relevant forms before ha goes into a hospital.

Also, the tax arrangaments for a Briton working for a UK company abroad are vary compil- also a very good one, why coted, but basically if you stay should you become an averaga abroed for some time, eg a year, you ore not eligible to pay English or foreign tax. If the period of work is considerably lass, you have to pay quite a substantial sum in tax efter your return.

The other important thing to remember la that contrectore ore virtually self-amployed and consequently do not pay national lnauranca. Therefore thay are not eligible for sickness or unamployment benefit and when accidents do happen tha

contract programmer is left with very little to fall back upon. If you're healthy and lucky then contracting is ideal, but for owning a employors could not the accident prone the pitfalls of contract work are as many as

Mertin le hoping to claim loss of earnings and personal injury Insurence from an italian company as a result of the car sccident but, in many other respects, all coste will heve to be

orne personelly. Someone who is not entitled to unemployment benefit is ell-gible for social eccurity paymonts, but for someone who hed recently been earning £300 a veek, these would be minimal.

"In theory," he says, "I'm a much wanted commodity. in practice it just doesn't work like

Mertin is currently con-sidering jobs which he otherwise would not have taken, but even these "boring" or "unettrective" contracts are worth about £250 a week. While employers are desperate enough for the right sort of staff this trend will no doubt

in DP, the cereer ladder usuelly maens the un-Imeginative progress from progremmer to systems analyst and then into management. As Mertin said: "I enjoy baing a pro-grammer. I don't want to be anything else."

So if you are a programmer, and they are in short supply as everybody knows, and you are systems analyst or a poor managar?

Page Six will be pleased to and minuses of giving up that hear your views.

WHERE n points can be arranged on a plane surface in the form of a triangle, n is referred to as being a Triangular number. The first such number (apart from 1) is 1 + 2 m 3, the second 1 + 2 + 3 m 6, and the third 1 + 2 + 3 + 4 m 10

When n is also a squera, the number in quantion is sailed a squera, the number in quantion is sailed a Square Triangle, and the first three of these are 1, 36 and 1225.

All this is leading up to this

service for pre-printed

Emergency

printed forms has been started by Oyez, the publishing arm of the Seliciters' Law Stationery Society Ltd.

It epacielless in small to medium alzed centinueus atatienery runs and quetes e delivery peried of three to four weeks egeinst the nermel eight to 10 weeks. Form depths vary between three end 16 inches.

Oysz else says it cen provide vital forma auch es pey alipe inveises, or dispetch noise within days. All processes, including design, setting, artwork, pistemaking and printing, can be deep in-house and orders and delivered at the training of the control of the can be delivared either by its ewn vens er vie British Reliway's Red Star service.

Further details from Oyez, Freepest, Lenden, SE1 4PU. Tel: 01-407 8058.

and thay often have to put up

with poorly-written and in-

On the other hand, they are abla to acquire a broad ex-

perience by going out and about

contrary to popular opinion,

often establish a good working relationship with parmanant

These are some of the pluses

security of permanent employ-

week's problem, which is:
The emeliest integral right triangle with two sides "consecutive", is: 3-4-5, and the next largest is 20-21-20. What is the third largest such triangle? See

third largest such triangle? See page 37 for solution.

iffint the answer can be de-rived directly from the series of Square Triangles, if you enly know how.)

the computer industry end.

adequate documentation.

OP SPOT

Why Paul finds it Banking difficult to get wor totally after an NGC count

LIVING in the high unemployment erea of Mer-seyside cen be very frustrating when you're young and keen to make a start on your career.

That's certainly true in the case of Paul Bryers, an intelligent, well-educated 18-year-old who is trying to break into the computer industry. Five months after acquiring his NCC Threshold Cerifficate in Date Processing at St Helens College of Technology, Paul Is still unable to find a job sss

it's certeinly not due to a lack of effort. He told me "i've writfor the personnel and lack for the personnel and lack." ten to 40 or so companies, com- placement sids of the pleted i0 application forms by return and attended four interviews. But so fer, nothing."

at three of the four, end-passed them ell and told the intarviewer concerned shout the subject

carried out by the VLI Group.

Questions were put to 750

operators and programmers.

13% responded, and the results

were published in VL Eye, the

Most of tha contractors

sgreed that documentation is

very important in halping them

carry out their work efficiently.

One in three operators said that

documentodon was inadequate.

of the contractore said they got

on wall with permonent staff,

disproving to some extent the

self-reliance, honesty, intagrity and "warm and breathing and

with an IQ of over 100,"

Rather surprisingly, some 80%

group's house journal.

...and it's not much fun

THE skills of contract staff are ment and going contract, accor-

under-used to e great extent, ding to n survey on contracting

for the operators

Threshold courses at & W eturn end ettended four Inter-lews. But so fer, nothing."

Collega, told me: "United alely Paul is one of man are looking for work in the collega. seyside erea,

"Firms have to advertise Internally before looking side. This applies to all some industry, not just DP." According to Bell, Paul Be was very keen on become programmer when he shall the 10-month course in June

work is on a second 370/168, together with the overseas regional branch network plus ail But Bell end David Find Lloyds traffic on the Swift Inheed of the DP Division and terbank funds transfer network, college, thought he would The third network is what better by concentrating Lloyds calls the system shop

operating and moving into gramming efter he had me network, a facility for divisions of the bank to get access to a inore experience.
"Paul's a bright led by intelligent and did very with school. However, he teaded computer for their own work. Users include the planning section, investment appraisal, the lessing deportment, the in-spection department and others, to ask anough questions a course, As we see it if sesser and the software being used is

municate with systems were as well as having the man work on their own "I do tell students that the services manager Jack Dunn. can move to other are to be omployment, but the young and have strong best ties that a very difficult.

for programmers to to

dea that resident operators are envious of the sarning power of Just in cass there if Meraeyside sites looking in junior operator, here in the Howevar, about half of the respondents criticised perdetails He has GCE of in English Language, manent etaff - shift lenders in particular - for saddling them matics, Physics, Chemistry Geography, and holds as M Thrashold Certificate in with most of the menial tosks. Aekad about the qualities needed to be a contractor, thay Processing. His address Wheetisid Road Crones. came up with euch rapiles ae: leadership, good appearance, Widnes, Cheshire Tel

7021. BERNARDAL

dependent' BANKING in the 1980s Is overwhelmingly dependent on com-puter power, and a big clearing bank's lifeline is its computer network, in the heart of Lloyds Bank's computer centre, Samson House on the south side of

Set theory way to

info management THE only way to build an information management system as opposed to a database

management system is to implement a complete asparation of the logical and the physical views of the databasa. The way to achieve this is to apply modern set theory. So soys Dave Childs of Sat-Theoretic Information Systems, a company established in 1979

with the purpose of developing a back-end set processor. Sets heve bean defined as an arbitary collection of "definite ond dletinct" objects, a definition which was soon rejected as too general, but no successful

SOFTWARE FILE

Sisckfrisrs Bridga in South-

wark is a small room from which the bank's major networks are

The most importent is the branch nelwork and 70% of this

is normally supported by one IBM 370/168. The machine

stores the dolly meino file for the

Cashpoint cash dispenser net-

work, which is updated over-

night with the close-of-day balance of each account.

The remoining 30% of the net-

i8M's VSPC, virtual storaga

personal computing. "We don't

allow people to buy their own minis," comments management

Since IBM has enhanced the

conversational monitor system,

looks after arranging for repair

controlled.

precise definition has been Speaking at the Online Future Systams Forum last week, Childs underlined the inadequacies of present day data-

base management systems; the definition of data models -Codssyl, hierarchical, ralational and so forth - ware really different usar views or the data. Normally the user was confined CMS, under tha VM/370 to one model, one organisation and one access method.

operating system, many people regard this as a much easier to "For a true informotion use and more attractive personal managamani aystem we want to be able to combine any model computing facility than VSPC.
Lloyds has protagonists for and any organisation with any andagainst VM, but does not yet access mathod.

consider putting the operating "Information management System up to be worth the effort.
Although Lloyds is often seen as a 100% IBM shop, there is a fisir amount of non-IBM equipment at Samson House, notably the Medius paragraph mentioning. should be in the hands of tha uaer, database managemant should ba confined to logical organisation, physical organica-tion should be under etorage the Medius network monitoring management, with system par-formanca managament system from International Aeroptimising use of multipla Within the network control access mathods, and handling nire, the line control section

network communication.
"Only then do you have a iruly data independent eyetem," said Childe,..."Set processing of fablis, and also gives guid-encain use of the network, acting as the lists on point for branches and users recognises dats organisations as mathematical sets, with avery

tranches and usere.

The TP control socion is radius, tape and file a racognisable specially for monitoring the TP set. And the basic set operations provide a combined to perform the familiar database operations.

The TP control socion is radius, tape and file a racognisable set. And the basic set operations are combined to perform the familiar database operations.

The TP control socion is racognisable set. And the basic set operations are combined to perform the familiar database operations.

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The TP control socion is racognisable set. And the basic set operations are combined to perform the familiar database operations.

The TP control socion is racognisable set. And the basic set operations are combined to perform the familiar database operations. doyds is running both the boundaries between the last card Release two of the logical and the physical The set card communication processor can be a front end, can which is part of IBM's end processor, where the host portfolio.

becomes the logical user.

becomes the logical user. "Multiple hosts can share a

Ving time, money back and set processor and sat processors can be linked to build distributed databases.

Childs believes that the sat processor could be designed on a single chip and his dompany hoped by Frazer Nash of hopes to have its first back and on Thames, Surrey year.

spokesman said it would also be suitable for installations with

who provided the programming effort under contract. Initially Usertab will be available for IBM 160 and 370 es well ns iCL 1000 and 2000 sites which do not use VME/B. A Level 06 veralon, planned for release in autuma, is being written in conjunction with Honeywell.

many user depurtments.

The spokesman added that Uscrtab should also work on IBM compatible kit such us that made by Amdahl, ond that initial marketing effort would be olmed

and reporting pack at the existing 1,000-plos Filerab

AN ENGLISH language inquiry and reporting package that is said to allow users to write their The principal features of nwn programs with little or no Usertab include: computer training or knowli. automatic formatting of u edge, is due for launch by the to 23 reports from one pess of

National Computing Centre In data files (each report may include its own integral SORT); Called Useriah, it was written 2. condition testing und following feedback from procalculation with actumatic fessional people, such as creation of new data items; eccountants, und nn NCC

3. optional creation of an inquiry statistic report which allows video users to priot reports selectively after hrow-It was written for NCC by FSS sing through n file: and 4. optional multi-level PASSWORD protection.

Three-year plan

A filREE year changeover to Cincom's Total dotabase management system is planned by Associated Bunk Publishers. included in the £30,000 deal is the Task unline datobase inquiry system. It will ail run on an NCR based Criteriun system.

COMPUTER-AIDED PRINTING AND PUBLISHING CONFERENCE

Saplember 9-10, 1980; London; Royal Lancaster Hotel Conference Chairman; Gilbert A. Smith Joint Conference Secretaries: S. Chomet, University of London King's Collage

N. J. Benwell, Cranfield Methuta of Technology echnical Advisor: J. F. Slater

DAY ONE

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DAY TWO

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SPEAKERS

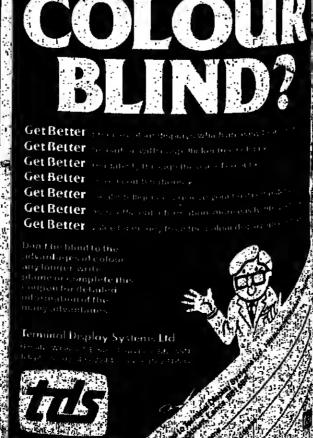
i Ollhert A. SMITH. Chairman of the Council, Institute of Printing, and Secretary General of

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XODIAC Network Manas System. It works. For more information, call or write, or send in the coupon.

PEOPLE and **EVENTS**

Ex-Govt thinker joins Urwick

Government Think Tank, Carolyn Hayman has now joined the systems research team at Urwick Nexos.

Ilsymon (right) specialised in the upplications of microelectronics while on the Think Tonk, and her work there included studies into work there inclined states into their social and employment impact, on the impact of technologics i change an employment, and on edication and training in relation to Industrial performance.

Tha leam of which she is a

mber at Urwick Nexos is devewing methodologies for analysing

Stephon Madden has been applyinted hotel eupport representative with Monutype communicatinn hotel systems division in Leeds, ills jest job was computer training cu-brdinator with Trust Bouso

Jerry Causley, previously UK sales director of CMC, hes been appointed mohaging director of CMC Lessings. Coll lieppell, head of customer scruce at CMC, and Richard Gambie, CMC's chief financial officer, have been appointed to the board of CMC Lessings.

Dick Barnes, formerly markeling manager of the Co-op's computer group, hes been promoted to general manager and head of the group.

Trevor Walls, dustomer angincer with Redifon Computers' South-East branch, has been promoted to customer services supervisor for the branch.



business eystems and office-based activity. She has also been invited to give evidence to the House of Lords Salect Committee on Unamployment, which is considering the offect that microelectronic technology will have on the level of employment.

Francis Hardio of Redifon Compulers has been promoted from area salas manager for tha Southarn branch to branch manager for the Midlands branch. Miebael Draper hos joined Radifon as area aales manager for tha cectral accounts South of England branch, from Four Phasa Systema whore ha was a regionol sales manager.

Phasa Systems whore ha was a regionol sales maneger.

Formerly an account managar with Nixdorf in Australia, Barry Lynch has become senior territory manager for centrel accounts North of England branch, with Redifon. Potar Fairweathor, who was until recently a customer anginear with ICL, has joined Radifon as engineering lecturer.

John Lambert has become finance director and company secretary at Memorex, after six years with the P & O group as group management secountant and finance director of

trainees on a tange of courses I I I I

But the number of the prants available.

in the field.

COMPUTER positive step to getting financial support for training computer

duced a further scheme for grants to employers

is limited, so the sooner you phone us the sooner

programmers and systems analysts.

We have now intro-

Marketing support man for Honeywell division

HONEYWELL has appointed a director of marketing operations in its general systems division. He is the 8100 range of low-cost Interaclive systems, and in his most recent appointment he set up the sales team Peter Smith, who until recently was NCR's sales manager for the indust-rial sector in South-East England. Most of Smith's career has been spent with NCR, and it has included At Honeywell, he will be heading a

At Honeywell, he will be heading a department providing product and sphications markeling support for the DPS 4 business computer and Level 64/DPS medium system line. some time in Lagos as regional sales manager for Nigerie. Richard Powson, until recently

editor of Printout, has joined Microect as markating manager. He will continue to write for Printout, s magazine for Pet users, in his spare board of the CAP-CPP group as financial director from the Talbex group, of which he was also financial director. David Kiag le sales maoagar, financial communications systems with Arbat. His last job was with Robert Anderson, who has joined GST Computer Systems as a senior consultant, was previously a con-sultant in the basic software division of Logica's communications group.

Ivor Kelly has become PMS product manager of Ferranti's Wythan-shawe division. Previously he was with British Steel, responsible for all process control computers in the Teesside division. Alan Fagg is the managar of Oceanic's nawly-formed graphics system division; ha was a sales

Spike Kasper, general managar of Vydec UK, has been appointed Gordon Rbied has joined Memorex as e-salesman in the Nor-them office. Previously he was with DML.

Westward expansion at PRCS

financial support for

Manticover Services Commission VSC



lirector with Engineering Computar

A BRISTOL office has been opened by Planning Research Computar Systoms end its manager is Pam Systems ento its manager is ram Amey, until receotly a projecta manager with Thomes Cook in Peterborough: The oddress of the office is 38 Kings Street, Bristol.

At the Wokingham, Berks cantre of PRCS, Reo Moffatt bas bead eppointed programming manager. Formerly be was systems manager for mini systems with Rank Xerox at Sloveh

Michael Harrie has become managing director of MAI, ofter eleven years at Univac where he was manager responsible for sales and support to banks, insurence compaolas, building sociaties, commodity brokers and finance houses. Georga Hobart, until recently a director of Silnn Systems and of Law i Data Systems, bas been eppointed general sales manager of Scope Data Systems. SHORT OF Giving us a call recould be your first Giving us a call now

Dr Emma Bird, a behavioural sciantist who was formerly with Communications, Studias and Planning Ltd, hos joined the systams research group at Urwick Nexos. positive step to getting

SOCCER

THE draw for the second round of the Summer Computer League Cup la es follows:
NCR 'A' v Kingston's
Forest v Jadpu 'A',
BAC v Ashbourna

Gryphon v Post Office Computer Weekly v Comshara NCR 'B' v Jadpu 'S'

Vantek v SiL SIA v Logica • There ore an swiul fot of league match results which haven't been reported to us. Would the respective team captains please put this right!

DIARY

Solution of licear programming problems with staircase structure. Prof O. B. Madean, BCS Mathematical Ingramming Study Group.
Lance School of Economics, London WC2 630.

The Talisman operating control

SEPTEMBER 3-6
LOST and microprocessor system design course. Computer Lab. University of Laterpool.

SEPTEMBER 5.Micro 85. CAD conference.
Micro 85. CAD conference.
SEPTEMBER 34
how (echnologies for information retrieval. Micro 1868 information Retrieval.
Group. Losson

PoS advice from **Eric Foster**

A SPECIALISED service offering this terminal systems to the retail took as users of these systems is provided by Services, recently set up by Frie Fook.

Footer had been with ICL shoe 1971, the joined from Pitney Sowes with the starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL off in the point of his last starting ICL of in the point of his last starting ICL of in the point of his last starting ICL of his last starting ICL of the point of his last starting ICL of his last starting ICL of his last starting ICL of his last star

Richard Hesley in appointed commercial draiser of the Industrial and Manchester, was formerly in manager of the Industrial and distributors W. M. Shaketer Clarke has joined Crozze bosed of the company by tributor, TCM Cosition accomes manager for the company of the company in 'Iao Andrews, business systams macager of Allan D'Morlaa and Associates, has baan appointed echnical director of the London office. Bob Pierce has joined the company as sales consultant for turnkay systems, from Computel where he was a sales consultant. Jack Jamleson, previously a territory managar in Scotland with Burroughs, has bacome ADM's minicomputer division manager, responsible for lurnkey systems in Scotland

Dr Robert Penn has been to the newly created a executive vice-president operating officer of the US Phil Thompson has joloed Monetype Communications as sales snalyst, from Oyez Computers He is replaced as reason custom, customer designs group by Richard Theses he responsibilities as many a customer designed protest are taken over by Edward as where he was a sales consultant.
Lucy Ereira, previously a word processing operator with Chemical Systems international and Lloyds Ragister of Shipping, has become market

support representative with Monotype, and Edward Croucher, Jim Gilbay, previous Mainline, has joined Creak systems as franchis may Zilog and RCA; and free has become Motorels has who was formerly a progrommer with General Signal, has become project laader, communications, with Monotype. Tony Bomber has become mar-keting manager with infotech. manager with Crelies is several years at Colcheir is lecturing in electronics

Ian Makepiece has been me nales manager of Dan kee Equipment's new en ur so operation.

Commonder David Ballan

come senior sales excess
Ferranti's neval sale text
ponsibilities cover the
Europe. He was in the Rep
yaars, and commande be
Thames, Dan and Yarada

FASTEST KEY MAN IN THE UK-

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Computer Jobs Agency

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meywell Bull was formed.

NEW FROM NASHUA



NASEUA CUATUA

Weather service for yacht clubs twice a day on a Nexos 6400 high

speed snalogus faceimile transcalvar which rents for £90 a Haeth was scaptical shout clube' willingness to pay this at the suggestion that later an-hancements could include retransmission by radio to a ship-board unit costing about £600. Our picture shows a weather map being received at a sailing club from the Gracknell Centra.

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jobs, which is the situation De-

sion (CW, June 19).

basic service for £100 a month which consists of sending a UK Work-for-disabled group seeks help

of disabled data prep operators "We are in the process of in business. Set up three years gaining charitable status so that agn as a limited company, the we can nttract diract aid and we group aimed to succeed in norinal commercial operation at the same time as providing employment for physically hundicapped and able-bodied people together

launch by Naxos and the Metao-rological Office of a facalmile-

based was ther forecasting ser-

vice simed at yacht clubs. Tha Met Offics now offere a atandard

in computing.
Its name, Emphntic Computer Services, is an acronym of this alm. For a time, the company did

"However, our ambition has not been matched by our busi-ness acumen," expinined one of the three founders, Ron Potter, formerly a service engineer for Kode. "And we are in danger of sinking without trace.

"We had a steady key-topaper-tape data preparation contract, but line company has now moved production abroad and we have jost it. We are losing our temporary office bo-cause it is to be redeveloped and

need help with an office, money, rek Nicholson found when lie management or marketing first joined the British Computer skills, equipment such as kcy-Snciety Specialist Group for the Disabled after training as a pro-grummer — and is what to-diac aystems, or anything anyone can offer. We would like to break into compted him to set up

programming. We have a Cobol video training course that come from the US via Vauxhall Moiors — we use this for introductory training at the Young Dia-abled Unit at Stoke Mandeville Hospital, where the other direc-tors, Darek Nicholson and Bob Hunter, who are both parapiegic, spend much of their time. We could do with some advice on how to get the work, and

prica it." From the introductory course, trainees go on to Queon Elizabeth College in Leather-

Honeywell and CII-HB compete in SE Asia

AN INTERESTING altuation has srisen in South East Asia, with Honeywell and CII-Honeywell Bull going Into open competition with each other in Singapore and

Reason for the American and tha Franco-Amarican companiaa preparing to do battle with each other, often with the. sama products, is that all the tarritories apart from Hong Kong were "unapacified" tarritorias undar tha agraament which carved up the world market between the two when CII-

Asian Computar Monthly quotes. Honaywell vicepresident and ganeral manager pines and Hong Kong

for international oparationa, Duke Stirling, saying that under US and Fronch law the two companias cannot be partners in territories unapecified under the

Honaywall is established in Hong Kong and is in process of setting up operations in Singa-pore and Talwan, Plans are also under way to open in Malaysia, Indonesia, Thalland and tha

CII-HB appears to have the edge in China and has appointed Hong Kong firm-Sun Hung Kai (China) Ltd as its agent thera. CII-HB's expansion plans could ambraca Thalland, the Philippings and Hong Kerts.

-5 E

Olivetti adds to bottom end

OLIVETTI Computers ltas nd-OC 5300 line of medium scale BM-compatible mainframea. The OC 5300 line comes from IPL Systems in which Olivetti now has a 33% stake. According

paper Linea EDP, the OC 5310 can have up to four megabytes of main memory. It is aimed at IBM's new 4331 Model Group 2 and is field-upgradable to the

Call to halt dumping of video kit UK audio-visual manufacturers

are involved in a "trade war" wille Far East companies, and in has already cost the UK industry some 50,000 johs, according to figures from the electricians union, the EETPU.

To prevent further losses a UK delegation last week lobbled the EEC Commission in Brossels. seeking import controls on andio-visual equipment from Far Eastern countries. iolnı

manufacturer delegation, in cluding representatives from EETPU, ASTMS, TGWU. Philips. Thorn and Rank Toshibu, called for immediate controls on imports from

It was the proposed import of 200,000 monochrome television sets from Thalland which prompted EETPU national officer Roy Sanderson to form the delegation.

Sanderson commented, "We told the cuntmission that the IJK industry needs time to restructure and become more compctitive."

COMPUTER WEEKLY is holding its AnnualBall on Friday, October 10 at the Royal Lancaster

annuel Ball. Last year nearly 700 people attended what has come to be regarded as the computer industry's big night out.

This year the Ball will agein be held under the patronage of the British Computer

Society. And proceeds will once more be: devoted to a deserving cause asseclated with the computer industry.

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MICRO NEWS

by Eileen Stainer

IBM building small Josephson system

RESEARCH by IBM into Josephson high speed LSI technology has progressed to suit degree since it was announced last year (CW, May 24, 1979) that the design and construct of a small prototype computer system is currently under way. IBM has published a small prototype the current which describes the current states. issue of its research and development journal which describes the current status of research project on Josephson computer technology.

Scientists at Zurich, East Fishkill and the Thomas J. Watson Research Centre at Yorktown Helghts, New York are involved in the present pro-

Among the topics discussed are materials and process studies, logic and memory circult design, modelling, fabrication, testing and packaging.

Once the development is completed the Josephson devices will have the potential to outperform the current silicon technology and anothar potentlal future technology, gallium araenide, in both speed and

THE LEADING EXHIBITION OF

ng structures are not needed to remove the heat.

Scientista are working towarda a hypothetical mainframa capable of executing 250 million instructions per second with a main RAM capacity of 64 mbytes. This could produce msinframes with computing

Games for Sinclair

SOFTWARE for the Sinclair ZX80 is available from mail order company, Econosoft, for £5 a cassette, inclusive of VAT, postage and packing, and operating instructions. The first product is a C12 cassette connswsistter Microcomputer is
taining four games programs. lysis.

Second volume

svents in microelectronics th were first recorded in it

to make gallium chips

* Hapid call-ont en braa *O. E. M. suppliers.

Threat to

US personal

market

JAPANESE personal comprise are expected to capture the to a heif of the US person computer merket within a next five yeers. Recent the peritors Hitschi, Metsublu NEC, Oki Electric and has already religions of the total captures of the total c

have already relieved the CH Pet From its Number 1 politic

in the Japanese market.
The reason gives for the modore's fall from 50% is

18%, le that Japanese moiki are lower priced et 170 k e1,200. Hitachi's Basic Marie III and Oki's IF800 are seid bis

technically advanced compant to the US personal compant, while Sherp's PC 1211 is at portable (CW, July 3), New Jepanese models have town displays.

Matsuchita hope to mark it a personal visual it.

ts Panasonie model through the

dealers and NEC plan to his duce its PC8001 on to the UI market. Ironically, important

Jepanese modele was only of bone of them Jepanese modele was only out by Microsoft whith it signed softwere for some of the US models.

study was carried out on a 16Kbit RAM using 4,500 Josephson junctions arranged on a 40 illimetres square chip. Measured results included an

access time of 10 nanoseconds with a power consumption of 40 microwatts. These compare with 200 nanoseconds access time and 475 milliwatt power consumption values of current silicon-based 16K static RAMs.

The Josephson devices deve-loped in the research are fabricated similarly to semiconductor LSI chips, using photo, alectron and X-ray lithography. Their packaging has to cope with an operational temperature four degress above Absolute Zero temperature (-273.16°C). This factor enliances the packaging techniques as bulky

rates 10 to 100 times higher than that of an IBM 3033 mainframe

Further Information can be obtained from the information department of IBM (UK) Ltd (CW) PO Box 41, North Harbour (Baltic House), Portsmouth PO8 3AU.

VOLUME 2 of the Manual Microcomputers is available from Mackintosh Publication (CW), Napier Road, Luten, III IRG, for £75, It collates par

Harris micro offshoot

HARRIS ie to form a semiconductor company, Harris Micromosemiconductors, to produce integrated circuits based on galical arsended technology.

This follows Rujitau's an foundement that it has successfully tested high alectron mobility transistors using gailium: arsenide and gallium aluminium arsanide (CW, Juna 28). Six Hewlett Packard engin-

eers have left the company to

from the Harris subsidiary.

which is to be based in Mountainview, California.

Harris is also devaloping.

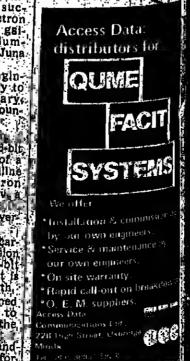
Asset is also devaloping.

Space of polycrystalline silidoh on three micron sometry. The device will hav a power gobeumpht of it.

dines the chan the NMOS version.

A similar study is being carried out with the 8748, a version of the 8048 single chip gibl microcomputer. Intel says it is adipping 100,000 sours a month.

Digital Equipment has signed an agreement with Harris to produce a CMOS version of the LSI. But no occident the LSI. See an accordance in the CSI. See an accordance i



TIM PALMER AND KEITH JONES REPORT ON THE FUTURE SYSTEMS FORUM IN LONDON WHERE LEADING INDUSTRY FIGURES ANALYSED INFORMATION SYSTEMS DEVELOPMENT, AND TRIED TO FORECAST THE TRENDS OF THE BOS

'Three more IBM series to be launched by 1980'

the E and H-series have been identified by Bob Fertig of Ad-New York, for announcement etween 1982 and 1988.

The G-series, offering 1.5 to 10 MIPS and costing batween \$250,000 and \$1.5 million, provides the growth path for the 4300s, he told the Future Systems forum in London.

"But the G-aeries may never appear, because as products like tha H-seriea arc delayed, so they slart bumping up against tha planned next generation pro-duct, and a further extension of the 4300 line, beyond the 4341 Model Group 2, expected later this year, might fill the gap until tha Olympia series turns up to replace the 4300 in 1984-85."

Fartig expects the Olympia series to be in the 0.3 to 1.7 MIPS power range and to cost bet-ween \$40,000 and \$150,000. Succeeding and extanding the power of the H-aeries, he sxpects the Slerra series, a range of supercomputera in the 10 to 50 MIPS range and costing bat-ween \$1.5 million and \$5.8 mil-

on leaks of what IBM is currently working on and things can change substantially bet-ween now and the planned launch dates. Prices are ACT

Fertig expects the H-series to cover the 3 to 27 MIPS ranga, with prices from \$1 million to \$6 million, He alao sees it aa a modular mix and match system, with the 27 MIPS Sentinel system having four processors and two System Control Units.

The Sentinel model he sees aa eing configurable for example with two System Control Units, ona supporting two processors and the other ona for a 20 to 22 existence of the H-series, but apart from IBM leaks, Fertig 20% a year — and that's unrealistic, office products to rise 25% a year — and that is possible, be-cause Wang is grnwing at 80% a year, so IBM should he noie tn its necessity, among them the inadequacles of 370 architecture, its complexity from the manage half of that in word user viewpoint, the threat from processing. And it requires serthe plug-compatible manufacvices to rise 30% a year. Last turers who, he says, now have 10% of the market for machines year it was 38%. But I expect the growth rate to fall to about 13% in the 158 and above class, de-ficiancies in 370 data security "IBM will apend \$1,700 mil-

and its high manufacturing and lion on research and development this year, which is more Reviewing IBM's proapects. than the total of most of its Fartig was doubtful that the competitora combined. But company could maintain a 15% much of that is insurance, developing alternative products and products it may need but may not. If the 8100 doas not succeed,

turnover and profit increase.

He also thinks that IBM's

scrious if IBM is innovative and despits its complaints, it when it bought 30% of the production of Silicon Valley in things like 10K memory chips, causing a shortage and forcing other manufacturars to turn to

holding company with separate subsidiaries, not all wholly-

scare-mongering about the thraat from the Japanese is exaggers ted.
"The Inprinese thrent is not

Possible new suitors for Amdahl

IBM will announce a facility parts of software that were suit able for micrncoding and that this task was borne only by IBM. end of the year and the skeletal operating, VM, can then be scrapped. There will he a com-mnn JCL for MVS and DOS/ VSE and within five years DOS/VSE will be phased out.

These surprising predictions were made by John Curran, xon, and AT&T. product marketing director of National Advanced Systems, in his paper on future directions in tha plug compatible industry. Currun also envisaged the

need for third party software maintenance companies to help nut smaller suppliers of IBM compatible processors, but he dismissed suggestinns that PCMs would be put out of business by IBM microcoding more of its systems software. He pointed out that the real effort and cost in microcode develop-ment was in identifying those

Commenting on the failure of the Amdahl and Stnrage Technology merger plans, Bob Fertig, of ACT, lined up three other possible suitors for Anidahl Control Data, the oil giant Ex-

Fertig saw Amdahl cnm plementing Control Data's other activities such as its IBM-compatible peripherals business. AT&T might be interested, he suggested, hecause it aiready accounted for up to 15% of in-stalled Amadahi machines, while

Exxon had the money.

However, Ulrich Weil, of security analysts Morgan Stanley, disagreed totally. He felt certain that Control Data had no wish to get back into inrgc scale systems, while AT&T and Exxon would not want to gct loaded with Amdahl's problems.

OUTLINING some of the adand improved reliability and

As to the problem of IMS

Fertig considered that it would continue because 2,500 of

IBM's best customars are using

It. But, as others have sug-gested, it would be extended

and enhanced with relational

vances he expected in the forthcoming H, or Adirondack, series, Bob Fertig said he ex-pected it would follow System 38 in providing substantial improvaments in functionality, overcoming at last the constrictions of 380-370 architec-

sees unanswerable reasons for

It would have a wider addraas spacs, probably 32 bits, giving direct addressing of up to four glgabytres, and would faature built-in data security, a key weakness in tha 370 de-

It should provide multiple ways of viawing logical files, as with the relational database on the Systam 38, and would eliminate systam genaration requirements which wasta resources and staff tims and

also job control languages.
Other features that Fertig looked for included a high leval

มีเลยเด็นได้เกี่ยวได้ เป็นเก็บ เลยเลี้ย

1980 PUTER TRAINING

The first machina in the saries, he forecast, would appaar early naxt year.
Cods namad Iroquola 11, It
could appear as the 3035 and
would be a 12 MIP machine
made up of an 8 MIP master processor and 4 MIP slave pro-

The two processors, he said, would be combined through a System Control Unit, and part of MVS would go into an Executs Control Program, offloading input-output into a

typical database communica-tion application you find that in many cases 60% to 70% of available CPU cycles are used just to handle I/O. By offloading this on to a separate processor with virtual paging store you relieve the prime processors to do more useful work," commented Fertig. Ha expected the H machines

to offer 2.5 timee as many MIPS per dollar as the 303X not sa good s s the 4300 because at the top and, high-epead technology remains disproportionately more expansive in Fertig looks for about 16

megsbytes of main memory on the iroquois II, priced at about \$25,000 per megabyte in the US. He believed that the single processor Iroquois I had been killed.

'4300 a good machineif you don't look on it not regarded as a minicomputer because of its low cost, or a maxi computer because of its raw not regarded as a minicomputer disoa or a 4331-2 VS1 will be because of its low cost, or a maximuch better." Computer because of its raw one purpose of the early power rating evaluation exerciss was to find its first users. Dave Smith consultant in computer technology person could handle the maximum and training at Exxon, which mechine and training at Exxon, which mechine its looked more like s batch than the juniors could handle it.

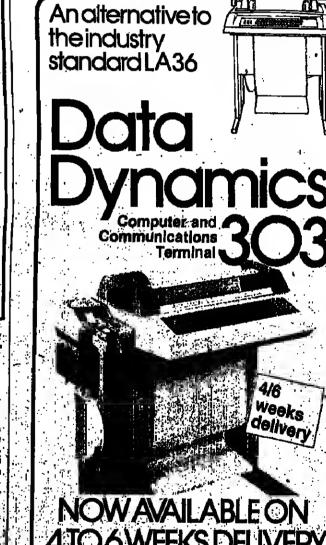
an interactive machine. Peopla DOS/VSE with CICS was much

it looked more like a batch than an interactive machine. Peopla used to small 360s and bottomend 370s thought it was great; while large systems people falt to that it is a magabyte and we only had one megabyte to start with while we not a lat of the system up and manage it. Will yell we found it would be the favor people to bring the system up and manage it. Will yell we found it mount to the will be the favor people to bring the system up and manage it. Will yell we found it means the well and the will be meaning abilised rather than developed further. There will be no functional enhancements, but I expect support for now devices where these are essential.

"We find it under VM the well and the problems were resolved, he said.

"We find it under VM the with reasonable response time. We find it under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the under VM the with reasonable response time. We find the problems were resolved, he said.

"We find the under VM the with t



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standard LA36 It features many improvements including a rugged metal case, illuminated platten, paper storage iscillities and takes up less floor area. It is available with or without a paper tape punch and reader.



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IT Business Systems I I I

The pipeline problem
If an active online or database system fails for any reason such as a hardware or software error, then it is possible that aeveral ransactions may have been at ... various stages in updeting the files. On restarting the system there is a risk that these transactions may have lost or even sactions may be lost or even

of file

by OWEN HANSON and NORMAN REVELL

and analysed in Basic File De-

sign and most of these methods

and database systems which make use of them.
Because of the very nature of

online systems, however, some

of the batch totalling methods

which provide a very effective

tions as they pass through the

steps of an application, cannot

be used fer online systems, or

online databass systems, where each transaction stands alone

and is processed in its entirety.

it should also be noted that

because the files of these

much longer on average than

those of a batch system which

sre just meunted when re-

gulred, there is greater potential

A type of problem which can

sometimes happen is where an

error occurs, in entering a tran-

saction ler example; which is not detected at the time, and msy only ceme to light weeks or syst months later, meking

detection of the "bug" which

In such a case the organise-

tion may have to live with this

known error taking eppropriate

temporary measure to correct it

until its true source can be de-

tected. Detabase aystema can

pose their own special problems due to the more complex neture

of the physical files where in-

dices and peinters may be lost or corrupted. We shall now exa-

mine soms common problems and their possible aclutions.

Most online and datebese systems make use of a log or journal of incoming trenaec-loss as a means of recovery, since the files can be updated from e previous backup copy using this log. The ldg would normally be held as a serial file on tape or disc.

Even If these transactions were time stamped on receipt it would not be possible to know which transactions had been

would not be possible to know which transactions had been successfully applied before the system (alled, since it is possible that transactions of different prorilies and different access requirements may not be processed in strict order and may overtake each other.

The bink way to be absolutely certain would be to hold the limestamp of all recent updating transactions on the file it sell, so that these can be compared with the log of intending transactions, though this essumes that no two incoming transactions would have exactly identical date end time stamps. In this wey it would be possible to ascertain alling reconstruction of the lifes which teams actions and the end time stamps. In this wey it would be possible to ascertain alling reconstruction of the been successfully applied.

Year a section of the standard is seen successfully applied.

Problem Online systems **Bucket1** Transactions security Master Batch update runs **Bucket 2** some of the problems of file se-cutly that are unique in online and database systems. Security measures for individual files Operating systems such as checkpoints, batch-conrols and so on were discussed

Diagram 1: The bucket system used in a multipre

rate log of successful file update transactions instead of entering the information on the master file record, though this latter approach will have an extra overhead since it necessitates an additional file referencs.

The overhead of logging transections can be reduced by blocking the log files, though to a large extent this may negate their purpose since several transaction log records may be lost in the output buffer in the course of a aystem failure.

We have emphasised the problem of losing update tran-sactions as opposed to query-type transactions, since in the latter case no threat to file or database integrity is posed by aystem lailure, and indeed in an online environment the terminal user, knowing the system has failed mey repeet that tren-saction anyway. If this latter action is not acceptable then the transaction log can be used to re-submit queries which were

lost when the system failed. This assumes that query trensectiona are logged, which is not elways the case, though it is good practice since a complete olcture of the system la obtelned when snelysing the log which is useful for performance enelysis and security control The bucket method In many systems, update

transactions are not applied immediately but are instead stored in aerial flies, after known as buckets, for leter batch updeting. This is normally done for reasons of accurity and performance (see Parta 12 and 13) though, of course, the major diandvantage of this epproach is

tain an out-of-dete answer. A good exempls of this me-thod is found in banking where any quaries concerning account balance refer to that figure which applied at the close of business the previous day when all the update transactions were ast consolidated on to the mas-

that query transactions will ob-

mmediate update is required. Between these extremes a situation is possible where two buckets are used and as one is being illed with incoming trensaclions the other is being pro-cessed by a batch file update program or sulte of programs as hown in Diagram 1.

This approach combines the security and performance benafits of betch processing with the facility to have more up-to-date information on file then with the case where the file is only updated daily when online pro-cessing has ceased. When this approach is adopted the batch processing system must be designed to finish processing a bucket of transactions before the next bucket is full,

The diagram shows this system in a multiprogramming environment, though it could equelly apply to a mulilprocessor environment with shared peripherels, one processor handling the online system, the

other the batch system. The alze of bucket chosen is a limiting fector in determining the frequency of the betch up-date runs, the larger the bucket size the less frequent these runs need be, if the update run involves sequential processing of whole files then it is more efficient to heve lewer runs than if skip sequential or random processing ia involved.

Control of access

via softwere: In most online and database systems there will be control of access to fliea via sacurity codes. This is often et two levela, first a sign-on code and ac-condly passwords for certs in files or parts of the database. In an online anvironment it is posan online anymonment it is pos-sible to link the two together by having different classes of user, identified by sign-on code, who may have different levels of ac-

For example, some users mey only be allowed to query perts of the files or database while Though this approach is ecothers are allowed to update or conspire over a period of time; ceptable in some applications, add new records. This can be produce catastrophic fallures.

very useful for training purposes where a special traince simulate the appropriete responses while taking no action.
if a Codosyl-based DBMS is

being used then there la scope for security control vin the subschems, eech user program being given its own sub-set of the iro databaae which it is ellowad to process.

Catastrophic failures

Catastrophic failures are those where it is impossible to continue processing by going back to a previous version of the files and applying the tran-sactions again as described above. Any system from a single random or indexed file to e complex database may be rebullt from a serial dump of the re-cords, and indeed this reorganisation is often per-formed on a scheduled basis for reesons of performance and effi-

The mein problem in being forced to reorganise because of failure is the time taken during which the system will not be available for use.

An interesting prectical defi-nition of what constitutes e very large datebase, VLDB, has been given as "e database of such a size that it cannot be reorganised: in a single wee-kend". The practical implica-tions of this definition should be immediately obvious to the reader. One approach is to break down such a database into more managenble segmen fs:

A way of meking outastrophic failures less likely is to have a reguler procedure of examining reguler procedure of examining and checking file contents either menually or by epecial housekeeping programs. One authority on the subject has advocated the design of a file-vet program for every mester file when the file is first designed. This principle can be extended to epply to data bese systems and reduce the ilkelihood thet a number of "eoft" arrors can. number of "eoft" arrors can conspire over e period of time to

program he dosigned for the Texas lestruments Ti 99/4 persons computer. It can play up to nins games at once, give action replays of single games, suggest moves to its human opponent and play a normal, aggressive or defensive game at three levels of compatence. It can also be told to lose, to avoid discouraging week players. The chose module costs £45, but the Ti 99/4 costs around £1,000.

Occasion for Levy...

to winning a tournament for human and computer Othello
players in Evanston, Illinols. II
was the only contestant to beat
the world champion Irosho Inouyi, but it was only brought to peak performance in time for its lest game.

The next two years should More are under development.

Robots in

space

in factories in space will grow semiconductor crystals and gro-cess kins; materials. This is one of the more exotic septications

of the more exacto applications that Alan Thompson, a NASA robotics researcher and editor of the US magezine Robotics; Age, will describe in e four-day course called Computarised Robots to be run in London in October by the Loatherheobased UK subaldiary of Integrated Computer Systems.

based UK subaldiery of Inta-grated Computer Systems. "Aliped at engineers and en-ginsering management, the £470 course covers robot tech-nology, performance, a review of systlable products and some case studies.

by David Levy's London-based Othello playing computers games software company occording to international

Levy set up his company in delivered five programs, in cluding glu rummy and German card game called skat

Computer centres are sexist, says union

publication, takes piece not only dustry diecriminetas against women by not encouraging n branches but eiso et computer centres where women ere often to be found working the simpler kayboard equipment, leaving the more technical and ndthem to gain the professional qualifications needed for pro-motion. This is the view of the Benking, Insurance end Finance Union in a pamphict on equel opportunities for women, Woman in Banking and Finance.

vanced work to men. BIFU, which has e high pro-portion of women members — the currrent figure is 48.5% feels so atrongly about the mat-ter that it has formed an equel opportunities committee.

Discrimination, says the

In some cases, the paper goes on, diacrimination starts as sonn as the female employee has Joined the company. "While the carear-minded young man is told in his interview about opportunitles for advancement and the importance of getting professional qualifications, the new female employee is often not given this valueble informe-

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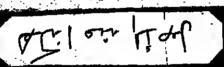
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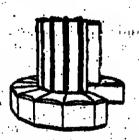
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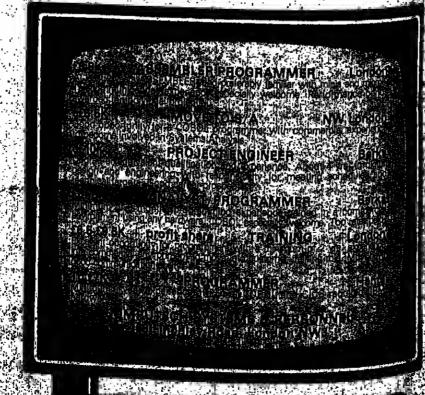
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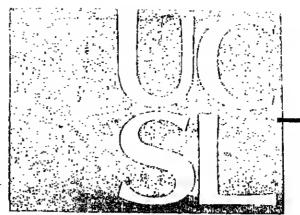
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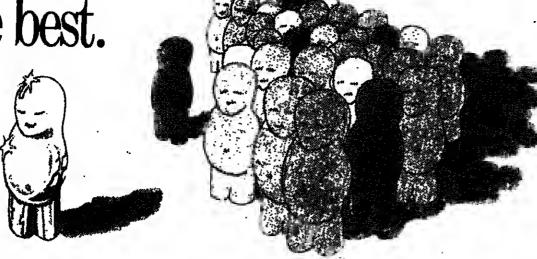
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on the development of various banking and imaneral apparations.

A minimum of one years CICS/Assembler running in a DOS/VS environment, with exposure to VM. CMS would be ideal. They have just taken delivery of twin 4300, and you would be deeply havrived with the conversion as well as the development of new systems. Successful candidates will be offered good career prospects plus all relevant benefits associated with financial institutions.

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The company have sophisticated (IBM) hardware and software, therefore applicants must be fully conversant with JCL, thresharing (TSO) and batch (MVS) systems. The ability to programme in COBOL, PL/I or FORTRAN is essential.

Contact: Margaret Stevens

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Berkshire

A large well-known manufacturer has opportunities for Systems Designers to work on A large well-known maintiactorer has opportunities for Systems Ix-signers in work on the development of real-time industrial aystems using mini and micro-computers. Applicants must have at least four years experience in design and programming of automation inflitting or process control aystems and should be finnillar with a real-time! language such as CORAL or RTL/2.

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Systems Programmer

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An excellent opportunity to capitalise on your extaung experience.

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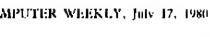
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For an initial discussion, phone Neville John on Nantwich (0270) 627206

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Candidates should said comprehensive personal, career and salary details to John Woods at Harcourt House, Harcourt Street; Dublin 2. Please quote Reference No. 1942.

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You will be fully trained to operate the Citroen computers. We, therefore, are seeking a self-motivated, responsible person, capable of working without supervision.

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Computer Specialists

The United Kingdom Atomic Energy Authority's establishment at Winfrilh, which is situated between Bournemouth and Weymouth in

COMPUTER SCIENTISTS

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Cobol Programmers

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ment with Payrolls, Stock/Inventery Contrel, Soles and Bought Ledgers. Whitst our client has no preference for particular bardware experience, current or very recant knowledge of IBM, OEC, ICL or HP equipment will be a distinct advantage. Similarly, those candidates who can effer 'Dalabase and/or on-lina skills will be especially favoured by our cliant.

Raf. L/29/D

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A Corporation of U.S. origin, wall established in Bonalux cod France, requires additional Systems Designers and Commercial Analysts to Join its permenent staff and international Iraval. It is an added in either its U.K. or Brussels offices. Successful candidates should be agad 28-35 years and offer Accountancy or Management Consultancy experience, Banking (Refall or Merchaot). Stockbroking or

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Shr client is a leading consultancy, and communications product specialist based in the centre of London Owing to o reploish reside in the centre of London Owing to o reploish reside in the demand for its expertise in the press of office automation and information science technology, additional Same of Consultants are required. Sultable applicants will have current or very recent involvement: with Systems. Natwork Architecture (SNA), preferably using IBM

software and hardware. Those who have experience of slectronic malling, text and word processing will of course, be particularly welcome. However, mere important will be the solility to lead project teams daveloping slote-of-the-art software. Our client also seeke the personal dustities of self-confidence, good presentation and self-motivation.

Ref. L/29/G.

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COMPUTER OPERATIONS **SUPERVISOR**

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eld Area Flaulth Authority, Wastern District (Wabelield) wish to appoint a Computer Operations Supervisor (female or make) to work within the Informa-tion Sorvices Department at Proderhalds Hospital This www.appointmont.will be on the Goneral Administrative rade and salary lor o 37 hour week is on a scelo from (4.240) 5537 (currently under review) New entronis ro the National Realth Service commence at the minimum

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Application forms and job description era evallable from the Acting District Administrator, Wakefield Ares Health Authority: Hetfield Heß, Aberford Road, Stanley, Wake Ileid. Closing date 1st August, 1980.

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THE SALES BIT

The 'Under a bus' syndrome

colleague the other day some modifications of usual concerning a special arrangement over his pcr- livery or extra capacity snnal remuneration pack- Then there could be special age. It was all very hospoke facilities, straightforward — no The trouble is, (hassics in any direction. We man bolieves he had known each other for

based on mutual trust and Some days after the dierussion he mentioned in misinterpret what the other issing he was rather sur-

orised that he had been asked to sign a formal document confirming In de-"Aftar all, we had a guod understand the delivery reintionship. Had I begun to Implications related to a distrust him ufter all these years? My word was good enough for him; wasn't his

good enough for nic? Why this sudden obsession for paperwork?" Those were conflict is to document the kind of questinns everything and obtain writimplied by hie reaction. My response was simple: agreement to be signed "How secure will your entitlement be if I fall under a bus?" In other words the

agreement was absolutely reasonable until such time 1. either perty was temporarily or permanently the bergain for circumstences beyond his control.

2. the human relationship declined due to the in-

fluence of emotional fac-8. extarnal praesurea caneed a degradation in the human relationable such es politics, tack of personal

4. the company is taken

over, and so on.

If the answer for the chief
i must confese that protagonists on both aides is during my career ee 8 salesman I have had to be taught

once before their reality sank into my thick skull. The one that has taken the longest to learn and has caused ma most pain and not work, will my good anguish is the simple truth relationship with this perthat the closer the human son deteriorate of be ter-

relationship, the greeter the minated?"
need for formality when it. The answer is usually yas, comes to making business which directs one to that The stronger the relationship within a businasa arrangement, tha higher tha cost of failure,

for when such a contract goes irrotriovably wrong, you not only lose tha business; you also lose a friend. I have both parsonally experienced and witnessed among friends and

acqueintances a perpetus well away from bus tion of instances which seethe in angen and distress for reasons, which are not necessarily a fundamental, Puzzle Answer

sunderstanding of the iginal strangement, but EACH Square Triangle more minor modifications that be "processed" to or imperceptible develop give a consecutive side mants in the factors in "Pythagorean triplet as volvad which slowly accuse follows:
mulate into a significant. Solve the two almulatores that suddenly arupts aneoue equations into an irretional and D = B - A - 1

As far as I can see the

capacity, size, delivery and then produces the triplet sq on dimensions 119-120-169:

standards such as early de-The trouble is the sales man believes he knows

 and so does the buyer. Yct willhout ehsolute de tailed confirmation in written form both parties can

Do both parties mean the same thing when they use such terms as early, fast, extra? Does the buyer really the first time The nnly way the sales-

man cen prevent, nr at least ten confirmation that the all that is required and all that is being promised.

Most salcsmen say they hate peperwork, but under pressure will admit they work, and will tolerate the rest. Believe me, the documentation of formal business agreements is the most Important of all such writing activity.

In summary, the test is simply: "Irrespective of my good terms with this person, will the agreement be tween us till operate effecrelationship decline or be terminated for whetever

"yes". Ihan the egreemen has a reasonable chance of

The corresponding test is

book. "If this arrangement does

pertner, halve your profits and double your problems".

term test of truth: So don't forget to write it all down, confirm that all related parties understand the aama thing - and keep

TRADER

Solve the two almult-

0 = V2(2A+1-B)

As far as I can see, the C = V(2A + 1 = 8)

fundamentol problem: Is
that the average clitzen has
the first in the light triplet are A and (A + 1),
tegrity of human natura
and B is the hypotenuse;
where C is the square foot
the Square Trianglo;
and where D is the side
total of the Square
total of the Square
triangle when it is sefout
in thangular form;
The datalis of an agreement to supply a service or
product typically consists of
a number of standard factors, such as volumea.

Solving the equations
capacity, size, delivery and then produces the triplet

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lor both maintanence and new development work. Main lenguage RPG, else Cobel. Area. North Werwickshire. Safary, to £8,000 plus relocation expanses. Rai:

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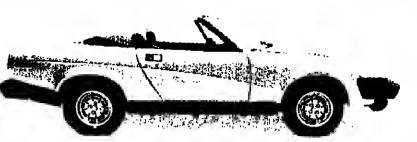
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